

CLAIMS

1. A printed circuit board, comprising:
a base substrate; and
5 an external interconnection terminal
provided on said base substrate,
said external interconnection terminal
comprising a land formed on a front surface of said
base substrate and a metal plate soldered upon said
10 land via a solder layer,
a through-hole being formed in said base
substrate such that said through-hole penetrates
through said land and through said base substrate,
said through-hole being filled with a
15 solder such that said solder in said through-hole
extends in continuation to said solder layer
connecting said metal plate to said land.
2. The printed circuit board as claimed in
20 claim 1, wherein said base substrate carries a second
land on a rear surface thereof so as to oppose to
said land on said front surface, said land on said
front surface and said second land on said rear
surface being connected with each other by said
25 solder filling said through-hole.

3. The printed circuit board as claimed in claim 1, wherein said through-hole being provided in plural numbers in each land.

5

4. The printed circuit board as claimed in claim 1, further comprising a solder resist layer on said front surface of said base substrate such that said solder resist layer covers a peripheral edge
10 part of said land, said solder resist layer extending in continuation to a part of said front surface of said base substrate surrounding said land.

5. The printed circuit board as claimed in
15 claim 1, further comprising a solder resist layer on said land in a part offset from a peripheral edge of said land.

6. The printed circuit board as claimed in
20 claim 5, wherein said solder resist layer forms a pattern dividing an are of said land connected to said metal plate by said solder layer into sub-regions.

25 7. The printed circuit board as claimed in

claim 6, wherein said solder resist pattern extends to an outside of said land.

8. The printed circuit board as claimed in
5 claim 4, wherein there is formed a solder resist pattern in a part of said land offset from said peripheral edge part, said solder resist pattern and said solder resist layer dividing an area of said land soldered to said metal plate by said solder
10 layer into sub-regions.

9. The printed circuit board as claimed in claim 1, wherein said solder resist layer is used also for covering an interconnection pattern formed
15 on said base substrate.

10. The printed circuit board as claimed in claim 1, wherein said metal plate has an area larger than an area of said land, said metal plate being
20 placed on said land so as to cover entirety of said land.

11. A printed circuit board comprising:
a base substrate; and
25 an external interconnection terminal

provided on said base substrate,

said external interconnection terminal
comprising a land formed on a surface of said base
substrate and a metal plate soldered upon said land
5 via a solder layer,

wherein there is provided a solder resist
layer covering a peripheral edge part of said land
such that said solder resist layer extends in
continuation to a part of said surface of said base
10 substrate surrounding said land.

12. The printed circuit board as claimed in
claim 11, further comprising a solder resist pattern
on an area of said land offset from said peripheral
15 edge part.

13. The printed circuit board as claimed in
claim 12, wherein said solder resist pattern divides
an area of said land soldered to said metal plate by
20 said solder layer into plural sub-regions.

14. The printed circuit board as claimed in
claim 12, wherein said solder resist layer and said
solder resist pattern divide an area of said land
25 soldered to said metal plate by said solder layer

into plural sub-regions.

15. The printed circuit board as claimed in claim 11, wherein said solder resist layer is used
5 also for covering an interconnection pattern formed on said base substrate.

16. The printed circuit board as claimed in claim 11, wherein said metal plate has an area larger
10 than an area of said land, said metal plate being placed on said land so as to cover entirety of said land.

17. A printed circuit assembly, comprising:
15 a printed circuit substrate comprising: a base substrate; and an external interconnection terminal provided on said base substrate, said external interconnection terminal comprising a land formed on a front surface of said base substrate and
20 a metal plate soldered upon said land via a solder layer, a through-hole being formed in said base substrate being such that said through-hole penetrates through said land and through said base substrate, said through-hole being filled with a
25 solder such that said solder in said through-hole

extends in continuation to said solder layer
connecting said metal plate to said land; and
an electronic component mounted on said
printed circuit board.

- 5 18. A printed circuit assembly, comprising:
a printed circuit board comprising: a base
substrate; and an external interconnection terminal
provided on said base substrate, said external
interconnection terminal comprising a land formed on
10 a surface of said base substrate and a metal plate
soldered upon said land via a solder layer, wherein
there is provided a solder resist layer covering a
peripheral edge part of said land such that said
solder resist layer extends in continuation to a part
15 of said surface of said base substrate surrounding
said land; and
an electronic component mounted on said
printed circuit board.

- 20 19. An electronic apparatus, comprising:
a printed circuit substrate comprising: a
base substrate; and an external interconnection
terminal provided on said base substrate, said
external interconnection terminal comprising a land
25 formed on a front surface of said base substrate and

a metal plate soldered upon said land via a solder layer, a through-hole being formed in said base. substrate being such that said through-hole penetrates through said land and through said base
5 substrate, said through-hole being filled with a solder such that said solder in said through-hole extends in continuation to said solder layer connecting said metal plate to said land;

an electronic component mounted on said
10 printed circuit board; and

an electronic device having a metal plate terminal, said electronic device being connected to said printed circuit board by connecting said metal plate terminal to said metal plate of said external
15 interconnection terminal by way of spot welding.

20. The electronic apparatus as claimed in claim 19, wherein said metal plate terminal of said electronic device and said metal plate of said
20 external interconnection terminal comprises any of nickel or a nickel alloy.

21. An electronic apparatus as claimed in claim 19, wherein said electronic apparatus comprises
25 a secondary battery pack including therein a

secondary battery as said electronic device, said printed circuit board carrying a charging control circuit of said secondary battery as said electronic component.

5

22. An electronic apparatus, comprising:

a printed circuit board comprising: a base substrate; and an external interconnection terminal provided on said base substrate, said external
10 interconnection terminal comprising a land formed on a surface of said base substrate and a metal plate soldered upon said land via a solder layer, wherein there is provided a solder resist layer covering a peripheral edge part of said land such that said
15 solder resist layer extends in continuation to a part of said surface of said base substrate surrounding said land;

an electronic component mounted on said printed circuit board; and

20 an electronic device having a metal plate terminal, said electronic device being connected to said printed circuit board by connecting said metal plate terminal to said metal plate of said external interconnection terminal by way of spot welding.

25

23. The electronic apparatus as claimed in claim 22, wherein said metal plate terminal of said electronic device and said metal plate of said external interconnection terminal comprises any of
5 nickel or a nickel alloy.

24. An electronic apparatus as claimed in claim 22, wherein said electronic apparatus comprises a secondary battery pack including therein a
10 secondary battery as said electronic device, said printed circuit board carrying a charging control circuit of said secondary battery as said electronic component.